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AUTHOR Clarcq, Jack R.; Maruggi, Edward A.
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ABSTRACT

To meet the needs of the handicapped, vocational training programs for handicapped people should provide individuals with technical, personal, social, and communication competencies. As competition for Federal funds becomes more acute, questions will increasingly focus on program effectiveness. Data on young deaf adults, even with professional or advanced training, reveal underemployment, low wages, and greater unemployment than their hearing counterpart. Consequently, vocational training programs must respond with sound program planning and evaluaton. The Comptroller General's report to Congress recommended that programs/services for the disadvantaged and handicapped should receive priority attention regarding utilization of Federal funds. New creative approaches, which must necessarily focus first on ends and then on means, are needed. A suggested process for vocational program development includes: (1) identification of program goals, (2) determination of clientele uniqueness, (3) determination of needs of sources of employment, (4) curriculum design, (5) curriculum development, (6) job placement of graduates, and (7) program evaluation. For example, the National Technical Institute for the Deaf (NTID) extensively uses media for job placement and relies on a comprehensive Curriculum Process Model. Of NTID graduates successfully completing their training program, 96% have found jobs and 95% have found jobs commensurate with their training level. (EA)

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INNOVATIONS IN VOCATIONAL EDUCATION: MEETING THE NEEDS OF THE HANDICAPPED - AN EMERGING RESPONSIBILITY

by

Jack R. Clarcq. Ph.D.
Associate Dean for Technical Education
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester. New York

Edward A. Maruggi. Ph.D.
Department Chairman. Engineering Technologies
and the Mathematics Learning Center
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester. New York

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INNOVATIONS IN VOCATIONAL EDUCATION: MEETING THE NEEDS OF THE HANDICAPPED - AN EMERGING RESPONSIBILITY

INTRODUCTION

Planners of contemporary vocational training programs have a challenge. This challenge relates most pointedly to designing, implementing and evaluating programs of vocational training that meet the needs of handicapped people and the needs of the larger society in which handicapped people will live. Both of these needs will change rapidly in today's technological world and vocational training programs will be challenged to change rapidly also. To meet this challenge, careful attention must be directed to the process of developing such programs.

This paper will describe 1) a focus for today's vocational training programs, 2) a historical backdrop in terms of the effectiveness of programs supported by public monies and an overview of the status of the deaf, as a case, in terms of accommodation to the world of work, 3) a process that can be used to develop vocational training programs, and 4) the job placement history of graduates of the National Technical Institute for the Deaf in Rochester, New York, as an illustration of what might be done.

VOCATIONAL PROGRAM FOCUS

The focus of vocational training programs for handicapped people should be to provide individuals with experiences that will assist them in "earning a living" and "living a life." Program graduates must have the necessary technical, personal, social and communication competencies to "secure and maintain meaningful and appropriate employment while at the same time be prepared for personal, social and civic involvement. Success in meeting the latter objective needs to be measured in part in terms of the degree to which graduates secure employment commensurate with their training and abilities and the degree to which they are able to move upward and laterally within their chosen career area."[1]

HISTORICAL BACKDROP

The effectiveness of programs in our social sector that are supported by public monies and directed toward meeting the needs of various people in this country has been questioned by individuals and groups throughout history. Such groups have represented interests such as the taxpayer, the professional, and the governmental planner at the state and federal levels. Fundamentally, the question raised is -- Have such programs met the needs of the people they are designed to serve? As the competition for funds becomes more acute for programs supported by public monies, it can be hypothesized that this question will be posed to program planners with increasing frequency. It is further suggested that the long-term, if not short-term, continuance of such programs will relate directly to the ability of program planners

to document their answers to that fundamental question. Many programs have not been able to demonstrate that they have, in fact, impacted upon the people they are charged to serve. David F. Linowes in a recent volume entitled, "Strategies for Survival" summarizes the state of the art succinctly when he states, "What is depressing is the discrepency between the verbal responses and the social action needed to convert the rhetoric into simple acts of needs fulfillment."[2] Linowes continues, "How often in the past have we witnessed violent eruptions - in Watts, Newark, Attica, Kent State, and elsewhere - followed by well intentioned studies....followed by eloquently inspired promises and pronouncements regarding reform....followed by what? By little, if any, innovation that significantly changes the status quo. Is it any wonder the level of desperation continues to rise?"[2] What we are in fact witnessing is desperation - on the part of the clientele served and on the part of those who provide funds to support programs that attempt to impact upon human beings in some positive fashion.

Robert W. Sarnoff, Chairman of the Board of RCA, in a recent article points out that "the unprecedented combination of inflation and recession has escalated costs and weakened support for....non-profit companies."[3] Sarnoff adds "...I believe that the single most important factor in survival of ...organizations will be the efficient handling of their resources. Unfortunately, many of them suffer from inexperienced or inept managment and this is reflected in the absence of accurate balance sheets and ignorance of economical purchasing practices..."[3]

The writer suggests "training managers in practices that will stretch their resources, regularize their finances and solidify their sources of support, adding that, "Sound management practices are not solely the preserve of profit oriented business; they are essential to the health of any organized human activity."[3]

It can be said that the history has been written: with the challenge squarely in front of contemporary and future planners of programs related to our social system. Their individual and collective responses to this challenge will have a direct bearing on the future of such programs. Planners must respond to this challenge by careful and deliberate efforts in the areas of program planning and evaluation: including documentation. Those involved in developing vocational training programs for the handicapped are not isolated from this condition. We, too, must respond. Our response must be constructed via sound program planning and evaluation. Only in this way will programs sustain themselves and, in fact, if we cannot demonstrate that we have had a positive impact upon the population we have been charged with serving, then we should not continue to receive support.

The history of deaf people, a select group of handicapped, in the world of work suggests that successful job placement will not happen by chance. Statistics indicate a history of unemployment, underemployment, lack of job satisfaction, and lack of job mobility. Even when professional training is introduced, deaf people generally have received lower wages

than their hearing peers. Studies by Boatner, Stuckless and Moores,[4] Lunde and Bigman,[5] and Kronenberg and Blake,[6] point out that young deaf adults have been concentrated in semiskilled and unskilled manual occupations. Boatner et al[4] found that wages of deaf people sampled were between 22% and 35% below those of the nondeaf and that the unemployment rate for the young deaf adult was approximately four times the unemployment rate of Connecticut and Massachusetts. In addition, they found that "opportunities of the deaf for advancement under their present employment with or without further training, are relatively limited.[4] Lunde and Bigman indicated that only "...30% of those who receive professional training find and hold professional positions.[5] Berger et al (1972) reported an unemployment rate of 21 percent for a sample of deaf adults in Oregon compared with a rate of 4.3 percent for that state.[7] Schein and Delk state that "once on the job, deaf workers appear subject to considerable underemployment. Forty-three percent of those who completed some post-secondary education have jobs as clerks, operators, laborers, and service and household workers" and add that "the average annual income for employed deaf persons fell $2,273 below the comparable figure for the general population - $5,915 vs. $8,188.[8] The data suggest that the young adult deaf is underemployed, receives lower wages, and experiences unemployment to a greater extent than his or her hearing counterpart. In addition, the data indicate that the above remains relatively constant even when professional and other advanced training is introduced. If this history is to be reversed for the handicappped, then new approaches must be attempted in the process of vocational education and training; including job placement. Programs must be directed to meet the unique needs of the clientele served and must be systematically developed.

Those involved in vocational education must be concerned with responsibilities in education of the handicapped. The Vocational Education Act of 1963 authorized funds to be used for "developing programs for persons with special needs that prevented them from succeeding in the regular vocational education program."[9] The VEA amendments of 1968 gave a high priority to the training of the disadvantaged. Minimum expenditure clauses were "designed to encourage the states to deliver services to students who could not succeed within the regular vocational curriculum".[9] There are generally no restrictions on how Basic Grants to states may be spent "...except that the states must allocate minimum portions of their total allotment, as follows: 15% for disadvantaged, 15% for post-secondary programs, and 10% for the handicapped."[9]

The Comptroller General's report to the Congress on the role of Federal assistance for vocational education indicated that "although expanded vocational opportunities have been made available for the disadvantaged and handicapped, persons with special needs have not been given as high a priority with state and local support as with Federal support.[10] Drawing from the National Advisory Council on Vocational Education, the report stated, "While recognizing that more disadvantaged and handicapped students were currently enrolled in vocational programs that at any time

in the past, the Councils expressed concern about the still very small percentage of these students being served in terms of the numbers needing vocational education. Of all the problems, this seems to be the one on which least progress has been made in terms of need and potential.[10] The Comptroller General's report recommended to the Congress that programs and services for the disadvantaged and handicapped should receive priority attention regarding utilization of Federal funds; if Congress believes these two groups should receive such a priority.

The stage is set. Competition for public funds to support programs related to improving the condition of people in our social system is and will continue to become acute. Questions will be raised with increasing frequency as to program effectiveness by those responsible for allocation of financial resources to such programs. This history of handicapped people in the world of work in terms of job satisfaction, upward job mobility, and other such variables has not been favorable. In addition, federal legislation has provided a fiscal base for developing programs geared to meet the needs of the handicapped. The Comptroller General's report indicates more needs to be done to respond to this charge. Thus, what is needed are new creative approaches for preparing the handicapped for the world of work - the "mainstream" of American life. These approaches must necessarily focus first on ends and then on means if they are to be effective.

PROCESS FOR DEVELOPING VOCATIONAL TRAINING PROGRAMS - AN APPROACH

In order to prepare handicapped people to function in a technological society, it is necessary to systematically design, develop, implement and evaluate vocational training programs. The process suggested for vocational program development includes:

1. Identification of program goals;
2. Determination of clientele uniqueness;
3. Determination of needs of sources of employment;
4. Design of curriculum;
5. Development of curriculum;
6. Job placement of graduates; and
7. Program evaluation.

1. Identify Program Goals

Too often in program development, primary attention is directed to identification and assessment of mechanics or means rather than on identification and assessment of the distinctive needs of the student population which the educational system is intended to serve and the requirements of the larger society in which handicapped

people will work and spend their leisure time. With this in mind, it is suggested that what is necessary in program development is to separate ends and means and to approach development by directing one's attention to the ends and to the means, in that order; first to define the anticipated outcomes (i.e., the needed product) and then to determine the best of many options which will produce such a product in the most effective and efficient fashion.[11]

The ends of a vocational training program must necessarily be the development of technical, personal, social and communication competencies. Technical competence is necessary because is provides the opportunity for job entry and mobility; personal and social competence is important because it facilitates job entry and accommodation to the larger world in which people live. People must also be provided with opportunities to develop communication competencies which will enhance their accommodation in the work place and in the larger society in which they will function.

2. Determine Clientele Uniqueness

The second phase in the developmental process, which can occur simultaneously with phase 1, is to idenify the distinctiveness of the clientele served in terms of interests, motivations, aptitudes, achievements, etc. Program planners must diagnose the operating levels of students and prescribe services and experiences accordingly. With an understanding of the uniqueness of the clientele, it is possible to design appropriate vocational training programs. Initial energies are not expended on development of mechanisms, but rather on identification of the levels at which students are currently operating and the levels for which they must be trained. From this, program planners can determine what services and experiences are necessary to meet the requisites for employment.

3. Determine Needs and Requirements of Sources of Employment

In designing a program of vocational training, it is important for program planners to develop and maintain programs that meet the needs and requirements of sources of employment. This is essential if the primary objective is to reverse history in terms of job success and economic independence for the handicapped. Program planners must be aware of manpower projections and employment trends. For example, a current trend in the United States is the shift from goods-producing to service-producing industries. Projections show this trend will continue. In the 1970's, employment growth will vary widely by industry. Technological innovation and society's demand for goods and services are among the prime factors impacting upon future employment growth at differing rates among industries. Employment in service industries is expected to grow more rapidly than in any other kind of industry. During the 1970's, growth will vary widely among occupations; with professional and technical workers increasing about 40% and service workers about 35%.[12] An analysis of future trends indicates that the largest growth will be in the clerical, service, professional, and technical worker groups.

What influence should manpower and employment data have upon individuals planning vocational education programs for the handicapped? These data should be analyzed in order to pinpoint industries, occupations and job areas that show the greatest demand for workers in the future. Vocational training programs must be designed that indicate a positive employment outlook for program graduates over the short and long-term and must be consistent with the institutional goals and the needs of the clientele served.

Liaison with governmental manpower planners, professional associations, representatives from business, industry, and education and other groups interested in the future labor market is essential.

4. Curriculum Design

The fourth step in the developmental process is to identify the competencies required of a program graduate once on the job. In this phase of curriculum design, the major technical, personal and social, and communication competencies necessary for a person to function in specific employment environments are identified. Once the skills are identified they can be arranged into technical, personal and social, and communication courses of instruction. The curriculum becomes the set of experiences which will take students from where they are to where they must be in order to obtain meaningful employment and job mobility, i.e., the ultimate criterion of program success. Examples of experiences which handicapped students generally need are:

1) those which develop understanding of self and of others,

2) those which develop an understanding of the world of work,

3) those which relate the educational (academic or vocational) environment to the world of work,

4) those which develop specific technical competencies,

5) those which develop social competence, and

6) those which develop communication competence.[11]

The above experiences are necessary if handicapped people are to respond in a positive fashion to a rapidly changing society. They are provided through curricular and cocurricular activities.

5. Curriculum Development

The fifth step in the developmental process is to systematically develop and organize courses and units of instruction. During this phase, behavioral objectives are written for skills taught in a

course, learning sequences are specified, entering student characteristics are defined, prerequisites for entry into the training program are identified, resources necessary to implement the curriculum are specified, and instructional materials are developed.

This phase is extremely important, but it should be noted that it is part of a larger developmental effort. Thus, courses of instruction have a necessary relationship to jobs and the skills necessary to function in such jobs.

6. Job Placement of Graduates

What has been said thus far will assist in assuring that programs are designed that meet the needs of both the individual and potential employers and that these phases in the job placement process cannot be left to chance. Equally important to consider in the process is providing individuals with every possible assistance in finding suitable employment. This must be translated into a comprehensive placement program that actively promotes the development of opportunities for handicapped people. Such a program must keep prospective employers informed about the general types of positions for which handicapped people are qualified. Such an approach must be aggressive. It is incumbent upon program planners to develop fresh, innovative, and creative marketing strategies related to placement of handicapped people.

At the National Technical Institute for the Deaf, extensive use is made of media in the job placement process. Potential employers are placed on a mailing list and receive copies of the NTID FOCUS. A recent issue of the FOCUS emphasized employment and directed the audience to the fact that NTID is job oriented. The deaf student who successfully completes a program of study can function as an effective member of the company team. A slide-tape presentation is used by NTID staff to discuss employment of NTID graduates with potential employers. Entitled, "Why Should You Put A Deaf Person On Your Payroll?", this mediated presentation points out to potential employers that NTID educational programs focus in on developing the student's technical, personal, social and communication skills that will enable the graduate to fit in, produce, and move up in the organization. The individualized approach to programs at NTID - tailoring the education and training to fit the needs of the deaf student - is discussed. The selective nature of graduate placement is also emphasized, i.e., searching for a one-to-one match between the company, the job, and the graduate. The presentation points out that in many instances, simple modifications in the work environment can be made to accommodate the skilled deaf worker. Finally, this mediated presentation highlights assets of deaf people in terms of productivity, stability, reliability, and responsibility.

A film, "The Silent Drum," was produced to use as a key marketing tool in the job placement process. It is recognized that employment of NTID graduates cannot be left to chance. Extensive and intensive

efforts are utilized to assist the graduate in finding suitable employment. The film concerns the programs and objectives of NTID and emphasizes visual content for the main thrust of communcation on both the intellectual and emotional levels. The basic goals of the film are to make potential employers of NTID graduates aware of a) the strong motivation and potentials of deaf students and how these can be maximized through specialized training, b) the educational technology developed at NTID to assist deaf students in development of technical skills, and c) the uniqueness of the NTID environment that focuses on the needs of the deaf students and the requirements of sources of employment.

The film also has a subsidiary function. It is used in the process of communicating with parents and potential students concerning the NTID mission and its programs.

Input from potential employers concerning mediated materials has been favorable. Such material, emphasizing the visual mode as the primary communication vehicle, has been used effectively by NTID to open up the doors of business and industry to deaf people.

The process of job placement of the handicapped must be selective. That is, the skills, interests and motivations of the person must be matched with the requirements of sources of employment.

In presenting himself to employers, it is necessary that the person be able to identify the kind and level of his technical, personal and social competencies. At the National Technical Institute for the Deaf, skill profiles are used to facilitate this process. These profiles are based upon technical, personal, social and communication competencies and have been useful in the selective job placement process. A match between the person and the job has been facilitated through this technique. The profiles provide the employer with information not typically available on job applicants and are a useful tool in matching the graduate to the employer needs.

7. Program Evaluation

Have programs met the needs of the people they are designed to serve? This is a fundamental question. Planners of vocational training programs must provide an objective response to the question in order to sustain programs. Program planners must develop criteria for evaluating their programs and program elements, design instruments for collecting data, and develop procedures for providing feedback to program implementers. Evaluation and feedback need to relate to questions such as: a) how well have the primary goals of the institution been met, e.g., economic independence, job satisfaction, job mobility? etc.; b) what are the changing characteristics of the clientele served and the changing needs and requirements of society and what impact do such changes have upon the

vocational training program in terms of experiences provided students?; and c) are services being provided to students in an effective and efficient fashion?

At the National Technical Institute for the Deaf, a comprehensive Curriculum Process Model has been developed that is designed to ensure that programs are developed that meet the needs of both deaf students and the needs and requirements of sources of employment. It is fully expected that both will change and, therefore, the program must also change to keep pace. This model includes maintenance and evaluation phases to assist program planners in keeping programs current. The model focuses attention first upon ends, second upon mechanics, and finally has built in evaluation and maintenance phases so as to enable program planners to modify the ends and means, using an objective base.

NTID EXPERIENCE

Social programs and problems are complex. The process of design, development, implementation and evaluation of vocational training programs for the deaf, as part of this larger picture, is complex. To effectively design and implement a vocational training program for the deaf, multidisciplinary planning and coordination is necessary. David Linowes states: "In social interprise, as in business, a variety of skills, viewpoints, and philosophies must be applied to a problem before a plan can be structured to resolve it. Omit even one of these crucial links - be it managerial, sociological, or accounting control - and you invite trouble. There is no longer any need or rational excuse for omission. The effectiveness of multidisciplinary coordination has long been established."[2] The NTID experience has demonstrated that multidisciplinary planning and articulation is necessary for successful program development, implementation and evaluation.

The NTID experience has also demonstrated that the history of the deaf person in the world of work can be reversed. As of May, 1975, approximately 96% of NTID graduates who have successfully completed their training program have found jobs. Approximately 95% have found jobs commensurate with their level of training. NTID graduates have found jobs in 34 states, the District of Columbia and South America and are employed in business, industry, education and government. The graduates are working in a variety of positions formerly not available to the deaf. Deaf people now are functioning alongside their hearing peers as engineers, medical technicians, photographic technicians, accountants, and many other highly technical jobs. The course of history can and is being reversed.

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